

Claim Amendments

RECEIVED
CENTRAL FAX CENTER

AUG 12 2004

OFFICIAL

CLAIMS

1. (Currently amended) A computer-implemented method of classifying an Internet object comprising the steps of:

computing (i) a descriptor coefficient, (ii) a name coefficient, (iii) a text coefficient, (iv) a image coefficient, (v) a audio coefficient, (vi) a video coefficient, (vii) a plug-in coefficient, and (viii) a relational coefficient[.]; and

classifying said Internet object using at least one of said coefficients.
2. (Currently amended) A computer-implemented method of classifying an Internet object as recited in claim 1, including combining and weighting all of said coefficients except for said ~~relatenal~~ relational coefficient, and generating a first weighted sum.
3. (Currently amended) A computer-implemented method as recited in claim 2, including providing a threshold value;

determining if said first weighted sum is greater than or less than said threshold value;

classifying said Internet object whereby, if said first weighted sum is greater than said threshold value, said object is classified as adult content, and if said first weighted sum is less than said threshold value, said object is not classified as adult content.
4. (Currently amended) A computer-implemented method as recited in claim 3, including computing said relational coefficient if said object is not classified as adult content in said classifying step; and

Combining and weighting all of said coefficients; and generating a second weighted sum.
5. (Currently amended) A computer-implemented method as recited in claim 2, including providing a threshold value;

determining if said second weighted sum is greater than or less than said threshold value;

classifying said Internet object whereby, if said second weighted sum is greater than said threshold value, said object is classified as adult content, and if said second weighted sum is less than said threshold value, said object is not classified as adult content.

6. (Currently amended) A computer-implemented method of classifying an Internet object as recited in claim 3, including blocking or filtering access to Internet objects that exceed the tolerated threshold for adult content by taking the following steps:

storing the URLs of sites which contain said Internet object in a database, if said first weighted sum is greater than said threshold value whereby said sites can be blocked or filtered by referencing said database when the Internet is accessed.
7. (Currently amended) A computer-implemented method of classifying an Internet object as recited in claim 3, including blocking or filtering access to Internet objects that exceed the tolerated threshold for adult content by taking the following steps:
 - (a) storing the URLs of sites which contain said Internet object in a database, if said second weighted sum is greater than said threshold value whereby said sites can be blocked or filtered by referencing said database when the Internet is accessed.
8. (Currently amended) A computer-implemented method of classifying an Internet object as recited in claims 1 wherein said step of computing the descriptor coefficient comprises the steps of:
 - (a) Identifying the PICS code in a metadata of an Internet object;
 - (b) Parsing labels of said PICS code; and
 - (c) Calculating a descriptor coefficient by computing the weighted average of the ratings of said labels.
9. (Currently amended) A computer-implemented method of classifying an Internet object as recited in claim 1 wherein said step of computing the name coefficient comprises the steps of:
 - (a) Compiling a keyword list of words that are likely to indicate adult content;
 - (b) Generating a weighted keyword list by assigning each word or phrase in the keyword list a weight, such that a higher weight is given to words or phrases that are more likely to indicate adult content;
 - (c) Providing an automated robot with the keyword list;

- (d) Computing substrings in the name of the Internet object and comparing each substring to the weighted keyword list; and
 - (e) Adding weights of all weighted keywords found in all substrings to compute the name coefficient.
10. (Currently amended) A computer-implemented method of classifying an Internet object as recited in claim 1 wherein said step of computing the text coefficient comprises the steps of:
- (a) Compiling a keyword and phrases list of words and phrases that are likely to indicate adult content;
 - (b) Assigning each word or phrase in the keyword and phrases list a weight, such that a higher weight is given to words that are more likely to indicate adult content;
 - (c) Providing an automated robot with the keyword and phrases list;
 - (d) Eliminating any formatting from the text of the Internet object to obtain an unformatted text;
 - (e) Reducing each individual word in the unformatted text to a stem, using a stemming algorithm;
 - (f) Comparing each stemmed word to the weighted keyword and phrases list;
 - (g) Calculating the text coefficient by first adding weights of all weighted keywords and phrases found in all stemmed words, and then multiplying that total by a scaling or weighting constant, which is a mathematical function of the total number of words in the Internet object; and
 - (h) Dividing the resulting number by the number of words in an Internet object.
11. (Currently amended) A computer-implemented method of classifying an Internet object as recited in claim 1 wherein said step of computing the image coefficient comprises the steps of:
- (a) Establishing a range of Hue-Saturation-Value ("HSV") colour space values for skin tones;
 - (b) Converting the colour of the Internet object into the HSV colour space;

- (c) Comparing every pixel of the Internet object image to identify which pixels fall within the colour space values;
 - (d) Dividing the number of skin tone pixels in the Internet object image by the total number of pixels in the image;
 - (e) Disregarding images that have less than a threshold proportion of skin pixels;
 - (f) Assigning each image in an Internet object that meets or exceeds the threshold proportion of skin pixels a nudity coefficient equal to the percentage of skin pixels in the image;
 - (g) Weighting the nudity coefficient of each image in an Internet object using specified weighting;
 - (h) Calculating the image coefficient by first adding together all of the weighted nudity coefficients generated by an Internet object; and
 - (i) Multiplying the total of all weighted nudity coefficients by a scaling or weighting constant, which is a mathematical function of the total number of images in the Internet object.
12. (Currently amended) A computer-implemented method of classifying an Internet object as recited in claim 1 wherein said step of computing the audio coefficient comprises the steps of:
- (a) Converting any audio components in the Internet object into unformatted text using a speech recognition algorithm;
 - (b) Concatenating the text data; and
 - (c) Evaluating the resultant text data using the method set out in claim 6 above (i.e. text coefficient method), and assigning a text coefficient using the method set out in claim 6 above.
13. (Currently amended) A computer-implemented method of classifying an Internet object as recited in claim 1 wherein said step of computing the video coefficient comprises the steps of:
- (a) Dividing the video data into image and audio data as required by the media type;
 - (b) Evaluating the resultant image data using the method set out in claim 11 (i.e. image coefficient method), and assigning an image coefficient

for each frame of video data using the method set out in claim 11 above;

- (c) Evaluating the resultant audio data using the method set out in claim 12 above (i.e. audio coefficient method), and assigning an audio coefficient for the audio data using the method set out in claim 12 above; and
 - (d) Calculating the video coefficient by adding a weighted sum of the image and audio coefficients, with weighting being determined automatically or can be set by the user.
14. (Currently amended) A computer-implemented method of classifying an Internet object as recited in claim 1 wherein said step of computing the relational coefficient comprises the steps of:
- (a) Determining whether the CoAC of an Internet object, using the calculations in the following individual coefficients (i) the descriptor coefficient, (ii) the name coefficient, (iii) the text coefficient, (iv) the image coefficient, (v) the audio coefficient, (vi) the video coefficient, and (vii) the plug-in coefficient, results in a CoAC greater than a tolerated threshold;
 - (b) If not, engaging in calculation of the relational coefficient by compiling a list of all Internet objects that the Internet object under consideration links to (the "linked-to objects"), as well as a list of all Internet objects that the Internet object under consideration is part of (the "part of objects");
 - (c) Checking the database referred to in Claim 6 to determine which of the "linked-to" objects and "part of" objects contain adult content that exceeds the tolerated threshold;
 - (d) Calculating an average CoAC of both the "linked to" objects and the "part of" objects that exceed the tolerated thresholds for adult content; and
 - (e) Calculating the relational coefficient by calculating a weighted average of the two averages determined in part (d) above, in which weighting can be determined automatically or can be set by the user.
15. (Currently amended) A computer-implemented method of classifying an Internet object or an object stored on computer-readable media by identifying adult content by the amount of nudity found in the object by taking comprising the following steps of:

- (a) Establishing a range of Hue-Saturation-Value ("HSV") colour space values that are classified as skin tones;
 - (b) Upon reviewing images in an object, converting the colour of the object into the HSV colour space;
 - (c) Comparing every pixel of the object image to identify which pixels fall within the skin tone ranges established in step (a) above;
 - (d) Dividing the number of skin tone pixels in the object image by the total number of pixels in the image;
 - (e) Disregarding images that have less than a threshold proportion of skin pixels;
 - (f) Assigning each image in an object that meets or exceeds the threshold proportion of skin pixels a nudity coefficient equal to the percentage of skin pixels in the image;
 - (g) Weighting the nudity co-efficient of each image in an object by determining the size of the image;
 - (h) Calculating the image coefficient by first adding together all of the weighted nudity coefficients generated by an object;
 - (i) Multiplying the total of all weighted nudity coefficients by a scaling or weighting constant, which is a mathematical function of the total number of images in the object; and
 - (j) classifying the object using said weighted nudity coefficients.
16. (Currently amended) A computer-implemented method of classifying an Internet object or an object stored on computer-readable media by identifying objects with adult content on the basis of the amount of adult content found in audio components of the object by taking the following steps
- (a) Converting any audio components in the object into unformatted text using any known speech recognition algorithm;
 - (b) Concatenating the text data;
 - (c) Evaluating the resultant text data using the method set out in claim 6 above (i.e. text coefficient method), and assigning a text coefficient using the method set out in claim 6 above[.] and
 - (d) classifying said object using said text coefficient.

17. (Currently amended) A computer-implemented method of classifying an Internet object or an object stored on computer-readable media by identifying objects with adult content on the basis of the amount of adult content found in video components of the object by taking the following steps:
 - (a) Dividing the video data into image and audio data as required by the media type;
 - (b) Evaluating the resultant image data using the method set out in claim 7 above (i.e. image coefficient method), and assigning an image coefficient for each frame of video data using the method set out in claim 7 above;
 - (c) Evaluating the resultant audio data using the method set out in claim 8 above (i.e. audio coefficient method), and assigning an audio coefficient for the audio data using the method set out in claim 8 above;
 - (d) Calculating the video coefficient by adding a weighted sum of the image and audio coefficients, in which weighting can be determined automatically or can be set by the user.
18. (Currently amended) A computer-implemented method of classifying an object stored on computer-readable media by undertaking the following types of data analysis:
 - (a) computing the following individual data type coefficients (i) the text coefficient, (ii) the image coefficient, (iii) the audio coefficient, (iv) the video coefficient.
19. (Currently amended) A computer-implemented method of classifying an object stored on computer-readable media as recited in claim 14, and, in order to identify adult content, calculating a weighted number to describe the coefficient of adult content ("CoAC").
20. (Currently amended) A computer-implemented method of classifying an object stored on computer-readable media as recited in claims 18 and 19, and blocking or filtering access to objects that exceed the tolerated threshold for adult content by taking the following steps:
 - (a) filtering or denying computer access to objects stored on computer-readable media that exceed the tolerated threshold for adult content by denying access to the device that reads the computer-readable media in question.

21. (Currently amended) A computer-implemented method of classifying an object stored on computer-readable media as recited in claims 18, 19 and 20, wherein said step of computing the text coefficient comprises the steps of:
- (a) Compiling a list of words and phrases that are likely to indicate adult content (the "keyword and phrases list");
 - (b) Assigning each word or phrase in the keyword and phrases list a weight, such that a higher weight is given to words that are more likely to indicate adult content;
 - (c) Providing the automated robot with the keyword and phrases list;
 - (d) Upon reviewing an object stored on computer-readable media, eliminating, where necessary, any formatting from the text of the object to obtain an unformatted text;
 - (e) Reducing each individual word in the unformatted text to a stem, using any known stemming algorithm;
 - (f) Comparing each stemmed word to the weighted keyword and phrases list;
 - (g) Calculating the text coefficient by first adding weights of all weighted keywords and phrases found in all stemmed words, and then multiplying that total by a scaling or weighting constant, which is a mathematical function of the total number of words in the object stored on computer-readable media; and
 - (h) Dividing the resulting number by the number of words in an object stored on computer-readable media.
22. (Currently amended) A computer-implemented method of classifying an object stored on computer-readable media as recited in claims 18, 19 and 20, wherein said step of computing the image coefficient comprises the steps of:
- (a) Establishing a range of Hue-Saturation-Value ("HSV") colour space values that are classified as skin tones;
 - (b) Upon reviewing images in an object stored on computer-readable media, converting the colour of the object into the HSV colour space;
 - (c) Comparing every pixel of the object image to identify which pixels fall within the skin tone ranges established in step (a) above;

- (d) Dividing the number of skin tone pixels in the object image by the total number of pixels in the image;
 - (e) Disregarding images that have less than a threshold proportion of skin pixels;
 - (f) Assigning each image in an Internet object that meets or exceeds the threshold proportion of skin pixels a nudity coefficient equal to the percentage of skin pixels in the image;
 - (g) Weighting the nudity coefficient of each image in an Internet object, using automatic or user-specified weighting;
 - (h) Calculating the image coefficient by first adding together all of the weighted nudity coefficients generated by an object stored on computer-readable media; and
 - (i) Multiplying the total of all weighted nudity coefficients by a scaling or weighting constant, which is a mathematical function of the total number of images in the Internet object.
23. (Currently amended) A computer-implemented method of classifying an object stored on computer-readable media as recited in claims 14, 15 and 16, wherein said step of computing the audio coefficient comprises the steps of:
- (a) Converting any audio components in the object stored on computer-readable media into unformatted text using any known speech recognition algorithm;
 - (b) Concatenating the text; and
 - (c) Evaluating the resultant text data using the method set out in claim 6 above (i.e. text coefficient method), and assigning a text coefficient using the method set out in claim 6 above.
24. (Currently amended) A computer-implemented method of classifying an object stored on computer-readable media as recited in claims 18, 19 and 20, wherein said step of computing the video coefficient comprises the steps of:
- (a) Dividing the video data into image and audio data as required by the media type;
 - (b) Evaluating the resultant image data using the method set out in claim 11 above (i.e. image coefficient method), and assigning an image

coefficient for each frame of video data using the method set out in claim 11 above;

- (c) Evaluating the resultant audio data using the method set out in claim 12 above (i.e. audio coefficient method), and assigning an audio coefficient for the audio data using the method set out in claim 12 above; and
- (d) Calculating the video coefficient by adding a weighted sum of the image and audio coefficients, with weighting being determined automatically or can be set by the user.